Remarks

Entry of the amendments presented, reconsideration of the application and allowance of all claims are respectfully requested. Claims 1-18 remain pending.

Initially, Applicants gratefully acknowledge the indication of allowability of claims 4-8 if rewritten into independent form, including all the limitations of the base claim and any intervening claims. These claims remain in dependent form herein since the amended independent claims from which they depend are believed to patentably distinguish over the applied art for the reasons set forth below.

This paper represents Applicants' first opportunity to address the newly applied art in the final Office Action. The amendments presented herewith more particularly point out and distinctly claim certain features of Applicants' invention. These amendments to the claims constitute a *bona fide* attempt to advance prosecution of this application, and are not meant to acquiesce to the outstanding rejections. Support for the amendments can be found throughout the application. For example, reference page 4, lines 20-22 and page 5, lines 21-24. No new matter is added to the application by any amendment presented.

Dependent claims 5, 9 & 18 are amended in response to the 35 U.S.C. §112, second paragraph, rejection to claim 9 stated in the Office Action. Each claim is amended to address an antecedent basis issue. Withdrawal of the 35 U.S.C. §112, second paragraph, rejection to claim 9 is therefore respectfully requested.

In the Office Action, claims 1-3 and 9-18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sedlar (U.S. Patent No. 6,549,916) in view of Horikiri et al. (U.S. Patent No. 5,706,501; hereinafter Horikiri). Applicants respectfully traverse this rejection and request reconsideration thereof.

Before discussing the newly applied art, Applicants will review the claimed invention.

Applicants' invention is directed to providing transactional functionality to a hierarchical file system in order to allow files in the file system to be managed in the transactional context (e.g., applying commit and rollback functionality) that is conventionally applied to database

management system technology. Further, the implementation of the transactional functionality using a transaction resource manager and a transaction based, file resource manager ensures that transactional changes to files of the hierarchical file system remain consistent with related data of another resource (e.g., data in a database) separate from the hierarchical file system.

As one example, Applicants claim a method of managing a hierarchical file system that includes providing a transaction manager arranged for cooperation with a transactional, file resource manager (e.g., claim 1). The transactional, file resource manager manages the hierarchical file system and the transaction manager implements transactional functionality via, in part, the transactional, file resource manager to effectuate consistent transactional changes to one or more files of the hierarchical file system and to data of one or more resources which are separate from the hierarchical file system, and wherein the data of the one or more resources is related to the one or more files of the hierarchical file system. The consistent transactional changes are initiated by the transaction manager and are accomplished via, in part, the transactional, file resource manager (see also FIG. 3). Thus, in Applicants' claimed invention, transactional functionality (comprising consistent transactional changes) is implemented by the transaction manager via, in part, the file resource manager. This management of the hierarchical file system using both a transaction manager and a transactional resource system manager is very different from the teachings of Sedlar and Horikiri.

With respect to the rejection, Applicants respectfully traverse the combination proposed in the Office Action. Noticeably absent from the Office Action is any express teaching, suggestion or incentive identified in the art for making the proposed combination. The only justification given for the combination of Horikiri and Sedlar is that it "would enable the system to utilize resource managers as a plurality of processes operated by performing mutual communications over a single or a plurality of computer systems." Columns 8, lines 23-30 of Horikiri is cited. These lines of Horikiri teach that the resource management apparatus described therein could be realized as a plurality of processes, rather than as a single process of a single computer system. Applicants respectfully submit that this justification does not identify an adequate teaching, suggestion or incentive in the art itself to combine the references, but rather simply alleges that the resource management apparatus described in Horikiri can be implemented either as a single process or as multiple processes, which is an issue not believed relevant to

Applicants' claimed invention. Applicants respectfully submit that the only suggestion or incentive for combining the alleged Horikiri teachings (as set forth in the final Office Action) with Sedlar would be Applicants' own disclosure, which, as is well known, cannot be used as a reference against them.

The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that the claimed process should be carried out and would have a reasonable likelihood of success, when viewed in light of the prior art. Both the suggestion and expectation of success must be found in the prior art, not in the Applicants' disclosure. In this case, the basis for the combination is believed drawn from Applicants' own disclosure, in violation of this principle.

Moreover, neither Sedlar nor Horikiri describe various features of Applicants' claimed invention. For instance, Sedlar fails to teach or suggest the above-described architecture that includes a <u>transaction manager</u> arranged for cooperation with a <u>transactional, file resource manager</u>. Instead, Sedlar describes a database server managing a database that emulates a file system (col. 14, lines 23-29; see also FIG. 4 thereof). The database server in Sedlar manages the file resources of an emulated file system <u>without being in cooperation with any other manager entity, let alone a transaction manager</u> as claimed by the present invention (see, e.g., FIGs. 3 & 4 thereof). Moreover, since Sedlar is directed to emulating a file system using a database, there is no need for a transaction manager to supplement the database server by initiating, for example, consistent transactional changes to one or more files of a hierarchical file system and to data of one or more resources, as recited by the claims presented herewith.

In addition to the architecture of Sedlar failing to teach or suggest the presence of a transaction manager in cooperation with the transactional, file resource manager, the functionality of the present invention is also not described or suggested by Sedlar. For example, applicants' invention recites the transaction manager implementing transactional functionality via, in part, the transactional, file resource manager. This implementation of transactional functionality allows, for instance, the transaction manager to directly effectuate transactional changes to data of one or more resources (e.g., data of a database) which is separate from the

hierarchical file system, and to effectuate such changes (via a transaction based, file resource manager) to one or more files of a hierarchical file system as well.

Further, applicants recite functionality implemented by the transaction manager that includes effectuating consistent transactional changes to one or more files of the hierarchical file system and to data of the one or more resources, wherein the data is related to the one or more files. This recited functionality allows, for example, a library of video files to reside in a hierarchical file system while descriptive information of the video files (i.e., data related to the video files) resides in a database (see FIG. 3) separate from the hierarchical file system. If a video file in this example is altered, the related description is altered consistently to reflect the changed video content (see specification, p. 12, line 26 – p. 13, line 9). In contrast, there is no discussion in Sedlar that the transactional changes to the emulated file system are consistent with transactional changes to data of one or more resources, let alone that such consistent changes be effectuated by transactional functionality implemented within a transaction manager.

Still further, applicants' claimed invention recites that the consistent transactional changes are initiated by the transaction manager and are accomplished, in part, via the transactional, file resource manager. This usage of both the transaction manager and the file resource manager provides a facility, for example, to initiate transactional commands (e.g., prepare to commit) at the transaction manager which are conventionally understood by a database management system, and to process those commands to effectuate the transactional changes to files of a hierarchical file system. In contrast, this particular manner by which transactional changes are made using both a transaction manager and a transactional, file resource manager is simply not described or suggested by Sedlar. Instead, Sedlar utilizes a database server (without a transaction manager) to accomplish transactional changes.

In support of the rejection, the Office Action cites Col. 7, lines 7-13, Col. 21, lines 31-43, and Col. 28, lines 40-51 of Sedlar for allegedly teaching Applicants' recited functionality of effectuating consistent transactional changes to one or more files of the hierarchical file system and to data of one or more resources separate from the hierarchical file system. Although Sedlar does describe transactional changes (e.g., Col. 13, lines 55-56), Sedlar does not disclose or suggest consistent transactional changes to one or more files of a hierarchical file system and to

data of one or more resources separate from the hierarchical file system. The cited lines of Sedlar do not teach or suggest such consistent transactional changes between files of a hierarchical file system and data from one or more resources separate from the file system.

Based on the foregoing, Applicants respectfully submit that Sedlar does not teach or suggest various features of Applicants' invention as recited in the independent claims presented herewith. This is expressly recognized in the Office Action where it is stated that Sedlar does not teach "a file resource manager, the file resource manager managing the hierarchical file system; and the transaction manager implementing transactional functionality via, in part, the file resource manager." For an alleged teaching of these concepts, the Office Action relies upon Horikiri. Reconsideration of the teachings of Horikiri is respectfully requested.

Horikiri teaches an apparatus for managing resources in a network combining operations with name resolution functions. A name analysis unit analyzes a name and converts it to a first or second resource implementation representation. The name resolution unit receives the first or second resource implementation representation from each context holder. When the result of conversion is of the second resource implementation representation, the name resolution unit outputs a resource name of a second series or string of resource elements included in the second resource implementation representation to its corresponding context holder. This operation is executed on a chain basis to solve the name. A resource implementation unit outputs a handle for the resource corresponding to the result of name resolution therefrom. An apparatus and method of managing resources is provided which is capable of embodying a distributed system which provides name spaces for performing local resource access for users, which reflect preference and intentions for an access method by each individual user.
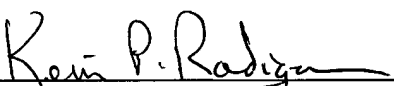
To the extent relevant to Applicants' invention, Horikiri discloses a resource manager for managing name translations. However, Applicants' respectfully submit that there is no teaching or suggestion therein of a resource manager for transactions, nor of a file resource manager that is transactional based, as recited in the independent claims presented herewith. Thus, Applicants respectfully submit that the Office Action mischaracterizes the teachings of Horikiri when it states that a transaction manager implements transactional functionality via, in part, a file resource manager. In support of Office Action's assertions, this allegation, Col. 15, lines 13-25

and Col. 31, lines 20-32 of Horikiri are cited. However, a careful reading of this material fails to uncover any discussion of transactional processing or transactional functionality *per se*. As described in Applicants' Background of the Invention, transactional processing is a well known type of processing that is atomic. Horikiri does not describe any transactional processing approach, let alone the transactional functionality recited by Applicants in the independent claims presented. The differences between Applicants' invention and Horikiri are highlighted in Applicants' amended independent claims, wherein the file resource manager is recited to be transactional based, i.e., is a transactional, file resource manager. Based upon this characterization, Applicants respectfully submit that the teachings of Horikiri are not relevant to their claimed invention.

Based on the foregoing, Applicants respectfully submit that the independent claims presented herewith patentably distinguish over the applied art. The dependent claims are believed patentable for the same reasons as the independent claims from which they directly or ultimately depend, as well as for their own additional characterizations.

Should the Examiner wish to discuss this application further with Applicants' attorney, the Examiner is invited to contact their below-listed representative.

Respectfully submitted,

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